CLAIMS

1. A vulcanizing mold for producing a pneumatic tire comprising a tread portion, said tread portion comprising a center region which includes an equatorial plane of the tire, and outer regions on both sides of the center region, said center region and said outer regions of the tread portion being bounded by two planes perpendicular to a center axis of the tire, wherein said mold comprises:

a pair of side mold members arranged opposite to each other and movable at least axially of the mold toward each other to define part of a mold cavity in which a green tire is vulcanized, and away from each other to allow setting of a green tire into the mold cavity and removal of a vulcanized tire out of the mold cavity, said side mold members each having an inner peripheral surface provided with ridges corresponding to grooves in the outer region of the tread portion of a tire; and

a plurality of distance piece arranged axially between the side mold members and movable radially of the mold, said distance pieces being circumferentially combined with each other when they are moved radially inwards, to form an annular inner peripheral surface provided with at least one ridge corresponding to at least one groove in the center region of the tread portion of the tire;

said ridges of the side mold members extending in parallel with each other, as seen in a developed view of the inner peripheral surface of the side mold member, and terminating at positions corresponding to a tread end of the tire so that the grooves formed by these ridges are opened in the tread end.

2. A vulcanizing mold according to claim 1, wherein said at least one ridge of the distance pieces extends in circumferential direction of the mold to form at least one circumferential groove in the center region of the tread portion of the tire.

3. A vulcanizing mold according to claim 1, wherein said ridges of the side mold members each extend along a meridian of the tire.

4. A vulcanizing mold according to claim 1, wherein said ridges of the side mold members each extends helically about a center axis of the tire, with a predetermined pitch.

5. A vulcanizing mold according to claim 1, further comprising guide means for guiding the movement of the side mold members away from each other when opening the mold, and positioning the side mold members relative to each other when closing the mold.

6. A vulcanizing mold according to claim 5, wherein said guide means comprises at least one wedge provided for one of the side mold members, and at least one notch provided for the other of the side mold members, said wedge being engageable with said notch.

7. A vulcanizing mold according to claim 1, wherein said distance pieces are engageable with one of the side mold members so that the distance pieces are moved radially of the mold upon axial movement of said one side mold member.

8. A vulcanizing mold according to claim 7, wherein said one side mold member has a cam surface engaged by said distance pieces so that said distance pieces are moved radially inwards when said one side mold member is moved axially toward the other of the side mold member.

9. A vulcanizing mold according to claim 8, further comprising biasing means for normally biasing said distance pieces radially outwards.

10. A vulcanizing mold according to claim 7, wherein the other of said side mold members comprises guide means for guiding the radial movement of the distance pieces, and biasing means for biasing said distance pieces radially outwards.